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23552 7590 02/06/2008 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER JOO, JOSHUA	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/669,248	Applicant(s) COFFEY, JOSEPH CHRISTOPHER	
	Examiner Joshua Joo	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/21/07</u> . | 6) <input type="checkbox"/> Other: _____  |

***Detailed Action***

1. This Office action is in response to communication dated 11/21/2007.

Claims 1-45 are presented for examination.

**Response to Arguments**

2. Applicant's arguments with respect to claims 1-45 have been considered but are moot in view of the new ground(s) of rejection.

**Information Disclosure Statement**

3. The information disclosure statement (IDS) submitted 11/21/2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

**Drawings**

4. The drawings are objected to because:
  - i) Fig. 1 should be designated as prior art because only that which is old is illustrated. See MPEP § 608.02(g).
  - ii) Figs. 4-5 should be provided with descriptive text labels.
5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be

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necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### **Claim Objections**

6. Claims 1-18 are objected to because of the following informalities:

- i) Regarding claims 1 and 11, "the selected source" and "the selection" lack sufficient antecedent basis. The claims should be rewritten to clearly refer to the source that is selected.
- ii) Regarding claims 2, 6, 7, and 12, "the selected source" lacks sufficient antecedent basis. The claims should be rewritten to clearly refer to the source that is selected.

Appropriate correction is required.

### **Claim Rejections - 35 USC § 112**

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 10, 17, 19-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i) Regarding claim 10, the term "approximately" is a relative term, which renders the claim indefinite. It is unclear as to the exact waiting period of "the autonegotiation period".
- ii) Regarding claim 17, "the idle signal" lacks sufficient antecedent basis.
- iii) Regarding claim 19, 24, and 25, it is unclear as to which pair of pins "the pair of pins" is referring to since the claim comprises of "a first pair of pins" and "a second pair of pins".

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- iv) Regarding claim 21, it is unclear as to which feature "thereupon" is referring to in the claim.
- v) Regarding claim 25, "theupon" is misspelled and if considered as "thereupon", it is unclear as to which feature "thereupon" is referring to in the claim.
- vi) Regarding claim 27, it is unclear as to which feature "its" is referring to in the claim.
- v) Regarding claim 28, the term "partially" is a relative term, which renders the claim indefinite. It is unclear as to the exact extent a data signal is absent.

### Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-3, 6-9, 11-13, 16-17, 19-21, 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Cromer et al. US Publication #2004/0223462 (Cromer hereinafter).

11. As per claim 1, Cromer teaches the invention as claimed including a method of selecting a data signal source from amongst a plurality of potential sources, the method comprising:

(a) selecting a source from amongst the plurality of potential sources (Paragraphs 0025; 0032.

Determine a logical-to-physical pin assignments.);

(b) monitoring the selected source for an indication of communication speed (Paragraph 0028.

Auto-negotiation determines data rate. Paragraphs 0005; 0030. FLP signals during auto-negotiation Paragraph 0032. Determine if auto-negotiation is successful.);

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(c) returning to step (a) if no indication of communication speed is observed (Paragraph 0032. If time out is detected, i.e. unsuccessful auto-negotiation, re-route ping assignments.); and

(d) maintaining the selection of step (a) if an indication of communication speed is observed (Paragraph 0032. If auto-negotiation is successful, network link is established using physical signal wires. Paragraph 0028. Auto-negotiation determines data rate.).

12. As per claim 6, Cromer teaches the invention as claimed including a method of selecting a data signal source from amongst a plurality of potential sources, the method comprising:

(a) selecting a source from amongst the plurality of potential sources (Paragraphs 0025; 0032. Determine and select physical pins.);

(b) monitoring the selected source for an indication of an ensuing autonegotiation period (Paragraph 0031. Initiate subsequent auto-negotiation and wait for response.);

(c) waiting for expiration of the ensuing autonegotiation period (Paragraphs 0031-0032. Timeout or auto-negotiation may be successful.);

(d) returning to step (a) if after expiration of the autonegotiation period, no indication of communication speed is observed (Paragraph 0032. If time out is detected, i.e. unsuccessful auto-negotiation, re-route ping assignments. Paragraph 0028. Auto-negotiation determines data rate.); and

(e) maintaining the selection of step (a) if after expiration of the autonegotiation period, an indication of communication speed is observed (Paragraph 0032. If auto-negotiation is successful, network link is established using physical signal wires. Paragraph 0028. Auto-negotiation determines data rate.).

13. As per claim 11, Cromer teaches the invention as claimed including a method of selecting a data signal source from amongst a plurality of potential sources, the method comprising:

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(a) selecting a source from amongst the plurality of potential sources (Paragraphs 0025; 0032. Determine a logical-to-physical pin assignments.);

(b) monitoring the selected source for an indication of communication speed or an ensuing autonegotiation period (Paragraph 0031. Initiate subsequent auto-negotiation and wait for response. Paragraph 0028. Auto-negotiation determines data rate.);

(c) returning to step (a) if no indication of communication speed or an ensuing autonegotiation period is observed (Paragraph 0032. If time out is detected, i.e. unsuccessful auto-negotiation, re-route pin assignments.);

(d) maintaining the selection of step (a), if an indication of communication speed is observed (Paragraph 0028. Auto-negotiation determines data rate. Paragraphs 0005; 0030. FLP signals during auto-negotiation.);

(e) waiting for expiration of the ensuing autonegotiation period, if an indication of an ensuing autonegotiation period is observed (Paragraph 0031. Wait for end of auto-negotiation process.);

(f) returning to step (a) if after expiration of the autonegotiation period, no indication of communication speed is observed (Paragraph 0025. Reconfigure if wires are determined to be non-functional.); and

(g) maintaining the selection of step (a) if after expiration of the autonegotiation period, an indication of communication speed is observed (Paragraph 0032. If auto-negotiation is successful, network link is established using physical signal wires. Paragraph 0025. Communicate using functional wires.).

14. As per claim 19, Cromer teaches the invention as claimed including a method for a media converter to identify which of two pairs of pins on a data jack is carrying a data signal sent from a network device, wherein the media converter includes a physical interface having an input port into which

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the data signal from the network device is to be supplied, and wherein the media converter further includes a switch interposed between the data jack and the physical interface, the method comprising:

using the switch to alternately couple the input port on the physical interface between a first pair of pins on the data jack and a second pair of pins on the data jack (Paragraph 0025; 0032. Re-route to set of wires. Re-route pin assignments. Paragraph 0022. Physical layer. Encoding/modulation. Ports are inherent to receive and transmit signals to the wires.);

monitoring the pair of pins coupled to the input port of the physical interface for an indication of the speed at which the network device will communicate (Paragraph 0032. Determine if auto-negotiation is successful. Paragraph 0028. Auto-negotiation determines data rate.);

upon determining the communication speed, ceasing to alternately couple the physical interface between the first pair of pins on the data jack and the second pair of pins on the data jack (Paragraph 0032. If auto-negotiation is successful, use physical signals wires to establish link.).

15. As per claim 2, Cromer teaches the method of claim 1, further comprising:

returning to step (a), selecting a source from amongst the plurality of potential sources, upon absence of a data signal from the selected source (Paragraph 0032. If time out is detected, i.e. unsuccessful auto-negotiation, re-route ping assignments.).

16. As per claim 3, Cromer teaches the method of claim 1, wherein the indication of communication speed is an idle signal (Paragraphs 0005; 0030. Fast link pulse. claim 3. Select rates of 10, 100, and 1000 Mbps).

17. As per claim 7, Cromer teaches the method of claim 6, further comprising:



returning to step (a), selecting a source from amongst the plurality of potential sources, upon absence of a data signal from the selected source (Paragraph 0032. If time out is detected, i.e. unsuccessful auto-negotiation, re-route ping assignments.).

18. As per claims 8 and 16, Cromer teaches the method of claim 6, wherein the indication of an ensuing autonegotiation period is an idle signal (Paragraph 0005. Fast link pulse. claim 3. Select rates of 10, 100, and 1000 Mbps.).

19. AS per claims 9 and 17, Cromer teaches the method of claim 8, wherein the idle signal is a fast link pulse (Paragraphs 0005; 0030. Fast link pulse.).

20. As per claim 12, Cromer teaches the method of claim 11, further comprising the following step to be carried out after either steps (d) or (g): returning to step (a) upon absence of a data signal from the selected source (Paragraph 0032. If time out is detected, i.e. unsuccessful auto-negotiation, re-route ping assignments.).

21. As per claim 13, Cromer teaches the method of claim 11, wherein the indication of communication speed is an idle signal (Paragraphs 0005; 0030. Fast link pulse. claim 3. Select rates of 10, 100, and 1000 Mbps.).

22. As per claim 20, Cromer teaches the method of claim 19, wherein the data jack is an RJ-45 data jack (Paragraph 0024; fig. 3. RJ45 140.).

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23. As per claim 21, Cromer teaches the method of claim 19, wherein monitoring the pair of pins coupled to the input port of the physical interface for an indication of the speed at which the network device will communicate comprises monitoring the pair of pins for an idle signal thereupon (Paragraphs 0005; 0030. Auto-negotiation comprises Fast link pulse. Paragraph 0033. FLP handshake.).

24. As per claim 24, Cromer teaches the method of claim 19, further comprising:

monitoring the pair of pins coupled to the input port of the physical interface for an indication of an ensuing autonegotiation period (Paragraph 0031. Initiate subsequent auto-negotiation and wait for response.);

waiting for expiration of the ensuing autonegotiation period, if an indication of an ensuing autonegotiation period is observed (Paragraph 0031. Wait for end of auto-negotiation process.);

after expiration of the ensuing autonegotiation period, monitoring the pair of pins coupled to the input port of the physical interface for an indication of the speed at which the network device will communicate (Paragraph 0032. Determine if auto-negotiation is successful. Paragraph 0028. Auto-negotiation determines data rate.); and

upon determining the communication speed, ceasing to alternately couple the physical interface between the first pair of pins on the data jack and the second pair of pins on the data jack (Paragraph 0032. If auto-negotiation is successful, use physical signals wires to establish link.).

25. As per claim 25, Cromer teaches the method of claim 24, wherein monitoring the pair of pins coupled to the input port of the physical interface for an indication of an ensuing autonegotiation period comprises monitoring the pair of pins for an idle signal carried thereupon (Paragraphs 0005; 0030. Auto-negotiation comprises Fast link pulse. Paragraph 0033. FLP handshake.).

26. As per claim 26, Cromer teaches the method of claim 25, wherein the idle signal is a fast link pulse (Paragraphs 0005; 0030. Auto-negotiation comprises Fast link pulse. Paragraphs 0005; 0030; 0033. FLP handshake.).

### **Claim Rejections - 35 USC § 103**

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claims 4-5, 14-15, 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cromer, in view of Overs et al. US Patent #6,600,755 (Overs hereinafter).

29. As per claims 4, 14, and 22, Cromer teaches of the system including 10BaseT4 Ethernet and negotiating data rates of 10 Mbps. Cromer does not explicitly teach of using idle signal that is a normal link pulse (claim 3; Paragraph 0017.).

30. Over teaches a system for auto-negotiation, where the indication of communication speed is an 10BASE-T normal link pulse (col. 2, lines 49-51).

31. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to use an idle signal that is a normal link pulse when negotiating data rates, which would provide a method for devices to advertise capabilities during negotiation to establish data rate.

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32. As per claims 5, 15, and 23, Cromer teaches of the system including 100BaseT Ethernet and negotiating data rates of 100 Mbps. Cromer does not explicitly teach of using idle signal that is a multi-level tier 3 pulse (claim 3; Paragraph 0017).

33. Over teaches a system for auto-negotiation, where the indication of communication speed is an 100BASE-Tx idle signals, which are MLT3 signals (col. 2, lines 46-47).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to use an idle signal that is a MLT3 signal when negotiating data rates, which would provide a method for devices to advertise capabilities during negotiation to establish data rate.

35. Claims 10 and 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cromer, in view of Pickell, US Publication #2004/0153701 (Pickell hereinafter).

36. As per claims 10 and 18, Cromer teaches of a timeout period in an auto-negotiation process (Paragraph 0031). Cromer does not explicitly teach that the waiting for the expiration of the autonegotiation period comprises waiting approximately 20 seconds.

37. Pickell teaches a system for establishing communication links, wherein a timeout period such as 15 seconds is set for a communication link switch (Paragraph 0044).

38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to a timeout period of approximately 20 seconds, which would provide sufficient time to determine whether wires are operable for communication.

39. Claims 27-35, 37-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cromer, in view of Manzardo, US Patent #6,127,953 (Manzardo hereinafter).

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40. As per claim 27, Cromer teaches substantially the invention as claimed including a media converter comprising:

a switch having a first end and a second end, the first end capable of coupling to any of a plurality of potential sources of a data signal (Paragraph 0025; 0033. Wires.), the second end coupled to an input port of a physical interface that converts the data signal from a signal that propagates along a first medium to a signal that propagates along a second medium (fig. 1; paragraph 0017. device 104 implemented between devices 102, 106. Medium 103 is one medium. Paragraph 0022. Physical layer.

Encoding/modulation. Ports are inherent to receive and transmit signals to the wires.);

a logic device coupled to the physical interface (Paragraph 0022; fig. 2-3. Processor connected to unit. Physical layer implemented in NIC and MIFU.);

wherein the logic device is arranged to cause the switch to iteratively couple its first end to each of the plurality of potential data sources on a one-by-one basis, until instructed to cease such iterative coupling by the logic device (Paragraphs 0025; 0032. Produce correspondence between pins. Re-route to set of wires. Re-route pin assignments.);

receive a signal from the physical interface, the signal communicating a data rate at which the data signal will be communicated (Paragraph 0032. Detect success of auto-negotiation.); and

upon reception of the signal communicating the data rate at which the data signal will be communicated, instruct the switch to cease the iterative coupling (Paragraph 0032. If auto-negotiation is successful, use physical signals wires to establish link. Paragraph 0028. Auto-negotiation determines data rate.).

41. Cromer does not specifically teach of an optical transceiver coupled to the physical interface.

42. Manzardo teaches of optical transceiver connected to physical controller (fig. 7 #117 and #118, col. 8, lines 40-63).

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43. It would have been obvious to one of ordinary in the art at the time the invention was made to combine the teachings to implement an optical transceiver coupled to the physical interface. The motivation for the suggested combination is that Manzaardo's teachings would enhance the capability of the switch by allowing the switch to communicate in different types of transmission media, wherein optical communication would provide high bandwidth and better quality over long distances.

44. As per claim 37, Cromer teaches substantially the invention as claimed including a media converter comprising:

a switch having a first end and a second end, the first end capable of coupling to any of a plurality of potential sources of a data signal, the second end coupled to an input port of a physical interface that converts the data signal from a signal that propagates along a first medium to a signal that propagates along a second medium (fig. 1; paragraph 0017. Switch implemented between devices. Medium 103 is one medium. It is inherent that switch is connected other mediums, e.g. medium between switch and gateway. Paragraph 0022. Physical layer. Encoding/modulation. Ports are inherent to receive and transmit signals to the wires.);

means for controlling the switch so as to couple the input port of the physical interface to one of the plurality of potential data sources actually carrying a data signal (Paragraph 0025; 0032. Re-route to set of wires. Re-route pin assignments. Switching between physical interface and wires is inherent to communicate data from the phy to assigned wires.);

wherein the physical interface detects a data rate of the data signal (Paragraph 0032. Detect success of auto-negotiation. Paragraph 0028. Auto-negotiation determines data rate.).

45. Cromer does not specifically teach of an optical transceiver coupled to the physical interface.

46. Manzardo teaches of optical transceiver connected to physical controller (fig. 7 #117 and #118, col. 8, lines 40-63).

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47. It would have been obvious to one of ordinary in the art at the time the invention was made to combine the teachings to implement an optical transceiver coupled to the physical interface. The motivation for the suggested combination is that Manzaardo's teachings would enhance the capability of the switch by allowing the switch to communicate in different types of transmission media, wherein optical communication would provide high bandwidth and better quality over long distances.

48. As per claim 38, Cromer teaches substantially the invention as claimed including a media converter a network arrangement comprising:

a media converter including:

a switch having a first end and a second end, the first end capable of coupling to any of a plurality of potential sources of a data signal, the second end coupled to an input port of a physical interface that converts the data signal from a signal that propagates along a first medium to a signal that propagates along a second medium (fig. 1; paragraph 0017. Switch implemented between devices. Medium 103 is one medium. It is inherent that switch is connected other mediums, e.g. medium between switch and gateway. Paragraphs 0017; 0022. IEEE 802.3. Physical layer. Encoding/modulation. Ports are inherent to receive and transmit signals to the wires.);

means for controlling the switch so as to couple the input port of the physical interface to one of the plurality of potential data sources actually carrying a data signal (Paragraph 0025; 0032. Produce correspondence between pins. Re-route to set of wires. Re-route pin assignments. Switching between physical interface and wires is inherent to communicate data from the phy to assigned wires.);

wherein the physical interface detects a data rate of the data signal (Paragraph 0017. . Paragraph 0022. Physical layer. It is known that physical layer functions to receive and convert signals. Paragraph 0032. Detect success of auto-negotiation. Paragraph 0028. Auto-negotiation determines data rate.);

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a first network device coupled via the first medium to the switch within the media converter (fig.

1. First device may be considered as device 102. It is also inherent that there are other devices connected to the switch.); and

a second network device coupled via the second medium to the transceiver within the media converter (fig. 1. First device may be considered as device 106. It is also inherent that there are other devices connected to the switch, e.g. devices on external network.).

49. Cromer does not specifically teach of an optical transceiver coupled to the physical interface.

50. Manzardo teaches of optical transceiver connected to physical controller (fig. 7 #117 and #118, col. 8, lines 40-63).

51. It would have been obvious to one of ordinary in the art at the time the invention was made to combine the teachings to implement an optical transceiver coupled to the physical interface. The motivation for the suggested combination is that Manzaardo's teachings would enhance the capability of the switch by allowing the switch to communicate in different types of transmission media, wherein optical communication would provide high bandwidth and better quality over long distances.

52. As per claim 28, Cromer teaches the media converter of claim 27, wherein the logic device is further arranged to:

receive a signal from the physical interface, the signal communicating that a period during which the data signal will be at least partially absent is ensuing (Paragraph 0031. Receive signals for auto-negotiation. It is inherent that data signals may be lost or the auto-negotiation will not complete, thus data signals may be "absent").;

wait for the period during which the data signal will be at least partially absent to expire (Paragraph 0031-0032. Wait for timeout or end of auto-negotiation.);



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receive a signal from the physical interface, the signal communicating a data rate at which the data signal will be communicated (Paragraph 0032. Detect end of auto-negotiation is successful.

Paragraph 0028. Auto-negotiation determines data rate.); and

upon reception of the signal communicating the data rate at which the data signal will be communicated, instruct the switch to cease the iterative coupling (Paragraphs 0025; 0032. Produce correspondence between pins. Paragraph 0032. If auto-negotiation is successful, use physical signals wires to establish link.).

53. As per claim 29, Cromer teaches the media converter of claim 28, wherein the period during which the data signal will be at least partially absent to comprises an autonegotiation period (Paragraph 0031-0032. Auto-negotiation.).

54. As per claim 30, Cromer teaches the media converter of claim 27, wherein the logic device is a microprocessor (Paragraph 0021. Processor within a single chip. DSP or RISC.).

55. As per claim 31, Cromer teaches the media converter of claim 27, wherein the logic device is an application specific integrated circuit (Paragraph 0021. Processor within a single chip. DSP or RISC.).

56. As per claims 32 and 42, Cromer teaches the media converter of claim 27, wherein the first medium comprises a metallic conduction path (Paragraph 0024. RJ 45 connector.).

57. As per claims 33 and 43, Cromer does not specifically teach that media converter of claim 27, wherein the second medium comprises an optical fiber.

58. Manzardo teaches of using optical fiber as a medium for communication (col. 8, lines 56-63).

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59. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the switch to be interfaced to a medium comprising an optical fiber, which would allow support for high bandwidth and allow communication over a longer distance with low interference.

60. As per claims 34 and 44, Cromer does not specifically teach the media converter of claim 27, wherein the first medium comprises an optical fiber.

61. Manzardo teaches of using optical fiber as a medium for communication (col. 8, lines 56-63).

62. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the switch to be interfaced to a medium comprising an optical fiber, which would allow support for high bandwidth and allow communication over a longer distance with low interference.

63. As per claims 35 and 45, Cromer does specifically teach that the media converter of claim 27, wherein the second medium comprises a metallic conduction path.

However, Cromer teaches of one of switch's interface connecting to a medium comprising a metallic conduction path (Paragraph 0017; 0024), and it would have been obvious to one of ordinary skill in the art for one of the switch's other interface to connect to a metallic conduction path such as via the RJ-45 connector, which would reduce cost operations.

64. As per claims 39-40, Cromer teaches that a first network device may include different types of network devices (Paragraph 0016) but does not specifically teach that the first network device comprises a switch or a hub.

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Nonetheless, a switch or a hub are well known devices in a network, and it would have been obvious to one of ordinary skill in the art to connect a switch or a hub to the switch to increase a network's ability to communicate data.

65. As per claim 41, Cromer teaches the network arrangement of claim 38, wherein the first network device comprises a workstation (Paragraph 0016. Network computer.).

66. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cromer and Manzardo, in view of Cam et al. US Patent #6,671,758 (Cam hereinafter).

67. As per claim 36, Cromer does not specifically teach the media converter of claim 27, wherein the signal communicating a data rate at which the data signal will be communicated is a two-bit digital signal derived from a tri-state signal provided by the physical interface.

68. Cam teaches a system for packet data transfer, wherein PHY device communicates a two-bit signal derived from a tri-state signal (Table 2. See RMOD. PHY to Link.).

69. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the PHY device to communicate a two-bit signal derived from a tri-state signal, which would allow communicating control signals adapted for different data paths.

#### **Conclusion**

70. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

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71. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Thursday 8AM to 5PM and every other Friday.

  
NATHAN FLYNN  
SUPERVISORY PATENT EXAMINER

72. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

73. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 1, 2008

JJ